REMARKS/ARGUMENTS

Favorable consideration of this application, as presently amended, is respectfully requested.

Claims 1, 4, 5, 12, 19-22, 24-29, 33, 35-40, 49-61, and 64-65 are pending. New claims 64 and 65 are added. Support for new claims 64-65 is found in at least the previously presented claims 1 and 12 and, with respect to the percentage of oxygen used to form the first protective layer, at least Examples 1-5 disclosed at specification pages 11-17 which form the first protective layer in pure 100% argon or 95% argon and 5% oxygen. Thus, no new subject matter is added.

The outstanding Office Action rejected claims 1, 4, 5, 12, 19, 21, and 49-61 as unpatentable under 35 U.S.C. § 103(a) over Stachowiak (U.S. Publication No. 2003/0170466) in view of Lingle (U.S. 6,445,503) and Yoshimura et al (JP 10-148850). The Office Action rejected claim 20 as unpatentable under 35 U.S.C. § 103(a) over Stachowiak in view of Lingle, Yoshimura et al., and Szczyrbowski et al. (U.S. 5,279,722).

Pending claim 1 recites a method for producing a glazing having a multilayer coating deposited on a glass substrate particularly including using a maximum of 10% oxygen atmosphere to deposit the second protective layer. The method includes depositing a first transparent dielectric layer, then depositing a functional Ag-based infrared reflective layer, and depositing on the Ag-based layer a first protective layer in an atmosphere containing a maximum of 20% oxygen. A second protective layer is deposited directly on the first protective layer in an atmosphere containing a maximum of 10% oxygen. Finally, a second transparent dielectric layer is deposited. The unique combination of two protective layers above the functional silver layer, both protective layers deposited in low oxygen atmosphere, and the protective layers having different electronegativities with oxygen, helps provide a very stable coating that can maintain its properties after heating.

In rejecting claim 1 over Stachowiak, the Office Action acknowledges that Stachowiak does not disclose (1) depositing a first protective layer in an atmosphere containing no more than 20% oxygen, and (2) depositing a second protective layer in an atmosphere containing no more than 10% oxygen. Notably, the Office Action turns to the newly cited Yoshimura et al. to find the less than 10% oxygen atmosphere feature. Specifically, the Office Action at pages 5-6 states:

> Yoshimura et al. teach manipulating the ratio or [sic; of] oxygen to argon during sputtering to be at a maximum 10% in order to alter the properties of the titanium and to control its transmission. Therefore, one of ordinary skill in the art ***could*** alter the amount of oxygen used in order to control properties of the titanium oxide.

Applicants respectfully traverse the Office Action's reliance on Yoshimura et al. for at least two reasons: (1) there is no reason to combine the electrochromic film of Yoshimura et al. with Stachowiak or Lingle, (2) and the Office Action relies on the wrong legal standard to combine Yoshimura et al. with Stachowiak and Lingle.

Stachowiak is directed towards multi-layer coatings that include at least one functional layer (typically silver) surrounded by dielectric layers for the purpose of solar control. See, e.g., ¶¶ [0002] and [0004]. Preferably the stack has increased visible transmission and decreased visible reflection. ¶¶ [0045], [0055], [0144]. The color of these types of coating stacks results from a complex interaction of the layers, including layer thicknesses, sequence, and composition. See, e.g., Oyama et al., U.S. 4,859,532, col. 5, lines 28-33, disclosing varying color by varying layer thickness. Stachiowiak itself desires a coating stack with neutral color. See, e.g., ¶¶ [0005], [0006], [0025], [0045], and [0144]. Moreover, Stachowiak implicitly acknowledges that the color in these types of complex systems is unpredictable by stating, for example, that "Surprisingly, Example 1 also had fairly neutral color." [0144], emphasis added.

Yoshimura et al. relates to a completely different system with an entirely different objective than Stachowiak. In particular, Yoshimura et al. is directed to an electrochromic thin film with a goal of providing a film which shows a large change in transmittance and has high coloring efficiency. ¶¶ [0005], [0008]. The visible transmission of the Yoshimura et al. window can vary enormously from 22-92%. [0036] This active control of solar energy through the window is accomplished by changing a voltage applied to the electrochromic layer to change the amount of light permitted through the window as desired. [0036] The Yoshimura et al. film is also formed on a single additional film such as indium tin oxide, which serves as an electrode to energize the titanium oxide layer. ¶ [0022]. The electrochromic film appears to have a single operative layer of titanium oxide and is designed so that as a voltage is applied to the layer the color dramatically changes from a transparent state to a significant color, such as deep blue. See, e.g, [0029]. This titanium oxide is very thick, e.g., 100 nm to 1000 nm. [0022]. Thus, the system of Yoshimura et al. does not have functional and dielectric layers that form an interference filter as in Stachowiak or Lingle.

A person of ordinary skill in the art making the complex composition of Stachiowiak would therefore have no reason to look to the relatively low oxygen content used to form the voltage controlled electrchromic layer in a simple two layer structure of Yoshimura et al. This is particularly the case when the person of ordinary skill would determine the oxygen content of a very specific protective layer of Stachowiak, one not in direct contact with the functional layer, in a complex system designed to have a very fixed neutral color. Indeed, to the extent Stachowiak considered the level of oxidation of his protective layers, he notes that higher oxidation levels provide higher transmission (which is desirable). See, e.g., ¶ 48 discussing oxidation levels in the NiCrOx layers.

In addition, the thickness of the protective layers recited in claim 1 is very small, only up to 3 or 7 nm. The purpose of these thin layers is not to control the color of the coating, but

instead to protect the functional silver layer. Indeed, it has long been understood in the art that protective layers of this type are typically designed not to affect the optical properties (such as color) of the coating. See, e.g., Oyama, 4,859,532, col. 4, lines 63-38 (generally explaining that interlayers "having a thickness not to substantially affect the optical properties may be inserted ... between adjacent layers.") By contrast the titanium oxide layer in Yoshimura et al. is of a radically different scale and has a thickness of 100 nm to 1000 nm. ¶ [0021]. A person of ordinary skill in the art would understand that the Yoshimura et al. titanium oxide is layer is so thick it will have a substantial impact on the color of any coating. In view of the totally different thickness and purpose of the Yoshimura et al. layer, a person of ordinary skill in the art would not consider the Yoshimura et al. disclosure in determining the oxygen content used to form a protective layer in the present invention. For all of the above reasons, Applicants submit that the combination of Stachowiak and Lingle with Yoshimura et al. is improper.

Moreover, Applicants respectfully submit that the Office Action uses the wrong legal standard in citing to Yoshimura et al. by asserting that a person *could* alter the amount of oxygen used in Stachowiak. Instead, to set forth a *prima facie* case of obviousness, it is necessary to explain why a person *would* look to Stachowiak. As explained above, there is no reason to do so here. Stachowiak already discloses that his system should have a fixed neutral color and there is no need to adjust it. Applicants again submit that a person of ordinary skill in the art would not look to the electrochromic layer of Yoshimura et al. for guidance as to what oxygen content should be selected in the second protective layer in the presently claimed invention.

Accordingly, Stachiowiak, Lingle, and Yoshimura et al. do not disclose or suggest the features of independent claims 1, 4, 5, 12, 19-21, and 49-61. It is submitted that independent

claim 1 and dependent claims 1, 4, 5, 12, 19-21, and 49-61 which depend on claim 1, are in condition for allowance.

Dependent claim 20 is rejected over the same references as claim 1 and further rejected over Szczyrbowski et al. Szczyrbowski et al. does not overcome the deficiencies of Stachiowiak, Lingle, and Yoshimura et al. and is thus allowable for at least the same reasons as claim 1.

For the reasons discussed above, no further issues are believed to be outstanding in the present application, and the present application is believed to be in condition for formal allowance. Therefore, a Notice of Allowance for claims 1, 4, 5, 12, 19-21, 49-61, and 64-65 is earnestly solicited.

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact Applicant's undersigned representative at the below listed telephone number.

Respectfully submitted,

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